

A New Species of *Rhynchospio* (Polychaeta: Spionidae) from San Clemente Island, California

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Abstract.—A new species of *Rhynchospio* is described from shallow subtidal rocky areas at San Clemente Island. Comparisons are made with related *Rhynchospio* species.

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During investigations at the Wilson Cove sewage outfall, San Clemente Island, California, specimens of a new species belonging to the genus *Rhynchospio* Hartman, 1936, were collected from coralline algal mats at low water and shallow subtidal depths. The specimens could not be identified to any known species of *Rhynchospio* and were determined to represent an undescribed species.

Rhynchospio microcera, n. sp.

Figs. 1, 2

Material examined.—Wilson Cove, San Clemente Island, California, from collections made in February, June, September and December 1973; taken from coralline algal mats, intertidally to approximately 3 m in depth; 1 holotype, 15 paratypes (holotype and paratypes collected in June 1973), and 10 additional specimens deposited in the collections of the Allan Hancock Foundation, University of Southern California, and 15 paratypes and 10 additional specimens deposited in the National Museum of Natural History, Washington.

Diagnosis.—Anterior body region inflated, beginning behind prostomial horns; prostomial horns minute, connected basally, and directed anteriorly or obliquely forward; prostomium extending to setiger 2 as a caruncle bearing three or four small eyes; peristomium reduced; branchiae beginning on setiger 2, curled over dorsum but not overlapping; tridentate neuropodial hooded hooks beginning on setiger 9 with up to five hooks per fascicle.

Description.—Entire individuals with 31 to 42 setigerous segments; holotype with 42 setigers, measuring 8.0 mm in length and 0.5 mm in width; anterior segments wider than those further back, thus giving worm an inflated appearance when viewed dorsally.

Prostomium terminating as two small prostomial horns which project anteriorly or obliquely forward (Fig. 1A, B); shallow cleft beginning at the inside base of horns, extending posteriorly to a point in line with anterior pair of eyes, giving prostomium a bifid appearance; prostomium terminating posteriorly at setiger 2 in form of a caruncle or small keel; two pairs of dark eyes in trapezoidal arrangement on prostomium (examination of the paratypes, however, indicated that eyes varied from three to four per individual); peristomium reduced, limited to small lateral extensions located ventral to mouth region.

Branchiae first present at setiger 2, extending posteriorly to last setiger, curled forward over the dorsum anteriorly, but not overlapping.

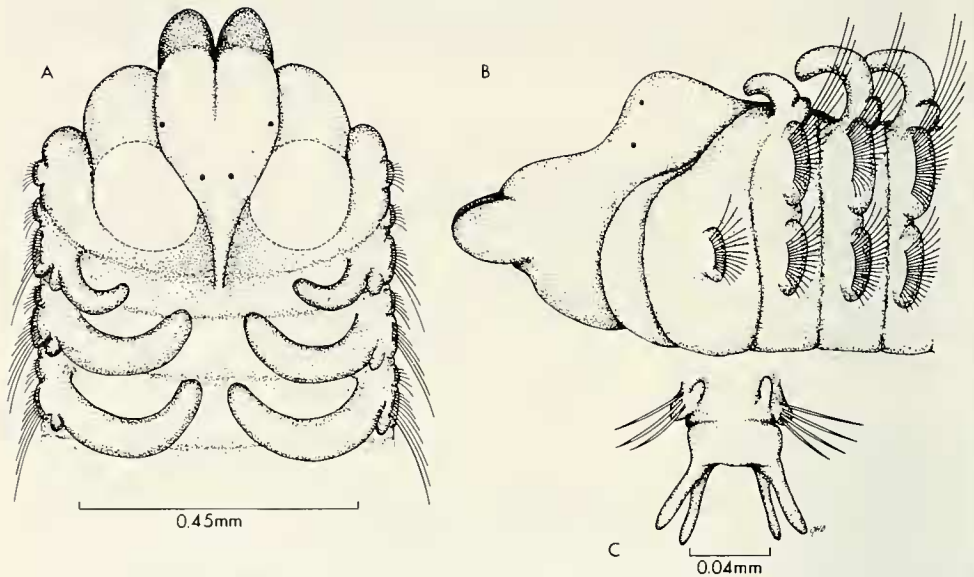


Fig. 1. *Rhynchospio microcera*, n. sp.: A. Anterior end, dorsal view (palpi removed); B. Anterior end, lateral view (palpi removed); C. Pygidium, dorsal view.

First setiger with only a neuropodial lobe, remaining segments supporting neuropodial and notopodial lamellae (Fig. 2A–C); anterior postsetal notopodial lamellae generally subquadrate in shape, becoming more acute toward middle region, and finally reduced to small, rounded lobes in posterior segments; dorsal cirri minute; anterior postsetal neuropodial lamellae subquadrate in shape, reduced to rounded lobes in posterior segments.

Setae of two kinds: granular capillaries and tridentate hooded-hooks; neuropodial and notopodial simple setae long, thin and faintly granular; superior simple setae of notopodium longer than inferior; those of neuropodium equal in length; tridentate, neuropodial hooded-hooks (Fig. 2D) first appearing at setiger 9, averaging five to a fascicle, each accompanied by similar number of long, thin setae; notopodial hooks absent.

Table 1. Characters distinguishing California species of *Rhynchospio*.

Character	<i>R. microcera</i>	<i>R. arenicola</i>
Prostomial horns	anterior to oblique in direction, joined at base	lateral in direction, separated at base
Caruncle	thin, extending to setiger 2	low truncate, extending to setiger 2
Neuropodial hooded-hooks	tridentate, beginning on setiger 9	tridentate, beginning on setiger 18
Pigment	small, blackish-brown speckles on anterior dorsum, a spot may be present at base of first branchiae	absent

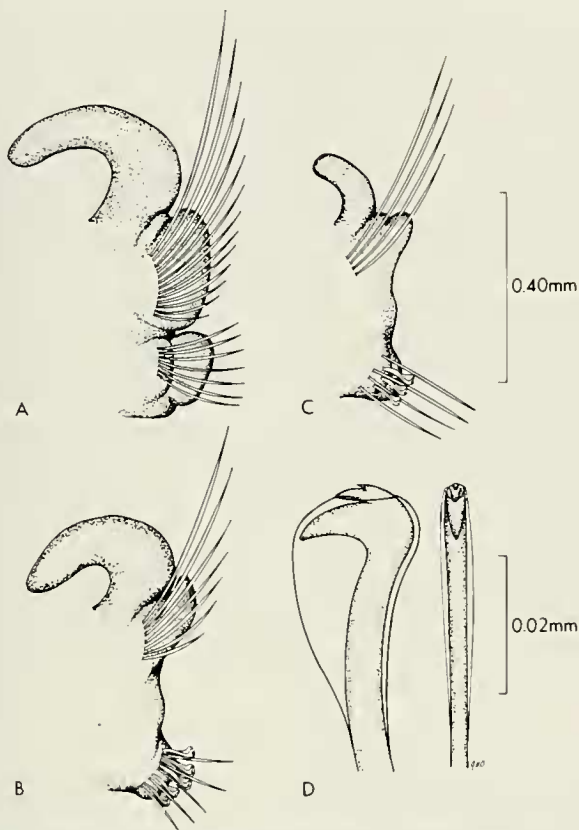


Fig. 2. *Rhynchospio microcera*, n. sp.: A. Parapodium of setiger 3; B. Parapodium of setiger 25; C. Parapodium of setiger 38; D. Tridentate hooded-hook from neuropodium of setiger 25.

Pygidium of holotype (Fig. 1C) terminating in 4 cirri of equal size (of 30 individuals examined, only 5 specimens possessed pygidia, and of these, the number of cirri varied from three to four per individual).

Anterior dorsum speckled with black pigment; a blackish-brown spot present at base of first pair of branchiae of holotype (only half of the specimens examined possessed this pigment spot but all have black speckles over their dorsal surface).

Habitat.—This species was found living in a tight-fitting tube constructed of sand grains, shell and coralline algal debris.

Distribution.—Specimens were taken in the vicinity of Wilson Cove, San Clemente Island, California, from low water to subtidal depths of approximately seven meters. The substratum consisted of coralline algal mat (mostly *Lithothrix aspergillum* J. E. Gray) in which sand and shell debris had accumulated.

Etymology.—The specific name *microcera* (feminine; *micro*, Greek = small; *cera*, Greek = horn) refers to the minute frontal horns of the prostomium.

Discussion.—Excluding *R. microcera*, three species and one subspecies of *Rhynchospio* have been described to date: *R. arenicola* Hartman, 1936; *R. arenicola asiatica* Chlebovitsch, 1959; *R. inflatus* Foster, 1971 (described as *Malacoceros (Rhynchospio) inflatus*); and *R. glutaea* (Ehlers, 1897). *Rhynchospio*

microcera differs considerably from *R. arenicola* (Table 1). The latter occurs from Washington (Banse, 1963) to southern California (Hartman, 1936) where it inhabits sand and muddy sand from intertidal to shelf depths.

Rhynchospio arenicola asiatica was described from the Kurile Islands, north of Japan, where it was found from upper sublittoral to littoral in *Laminaria* holdfasts, muddy sand, sponge and under encrusting ice (Chlebovitsch, 1959). This subspecies is distinguished from *R. arenicola* by its larger anterior eyes; thus, the differences between it and *R. microcera* are essentially the same as those found between *R. arenicola* and *R. microcera*.

On a global basis, *R. microcera* is morphologically similar to *R. inflatus* from the west coast of Bimini, West Indies. Both species possess inflated anterior ends and a pigmented dorsum. Bidentate, tridentate, and quadridentate neuropodial hooded-hooks are all present in *R. inflatus* and all begin on setiger 37; *R. microcera*, however, possesses only tridentate hooks which begin on setiger 9. *Rhynchospio inflatus* also differs from *R. microcera* in that the prostomium of *R. inflatus* ends abruptly at setiger 1, whereas, it extends to setiger 2 as a caruncle in *R. microcera*.

Rhynchospio microcera differs from *R. glutaea* in having pigment on its anterior dorsum (absent in *R. glutaea*). The neuropodial hooded-hooks first appear on setiger 16 in *R. glutaea*, but begin on setiger 9 in *R. microcera*.

All described species of this genus inhabit low intertidal and shallow subtidal regions, and are usually found in algal mats, holdfasts, sand or muddy sand areas.

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Literature Cited

- Banse, K. 1963. Polychaetous annelids from Puget Sound and the San Juan Archipelago, Washington. *Proc. Biol. Soc. Wash.*, 76:197-208.
- Chlebovitsch, V. V. 1959. Species of polychaete worms from the Kurile Islands which are new or recorded for the first time in the U.S.S.R. *Zool. Zhurnal.*, 28:167-181 (Russian).
- Ehlers, E. 1897. Polychaeten. *Hamburger Magalhaenische Sammelreise*. Hamburg, Friedrichsen and Co., 148 pp.
- Foster, N. M. 1971. Spionidae (Polychaetae) of the Gulf of Mexico and the Caribbean Sea. *Studies on the Fauna of Curacao and other Caribbean Islands*, No. 129, Martinus Nijhoff, the Hague, 183 pp.
- Hartman, O. 1936. New species of Spionidae (Annelida polychaeta) of the coast of California, with descriptions of nine new species. *Univ. Calif. Publ. Zool.*, 41:45-52.

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